

PROGRAMMABLE PHASE-LOCKED LOOP CIRCUITRY
FOR PROGRAMMABLE LOGIC DEVICE

Abstract of the Disclosure

[0051] A phase-locked loop ("PLL") for use in a
5 programmable logic device ("PLD") is constructed with
modular components, which may be digital, and which may be
programmable or adjustable, in place of the conventional
analog charge pump and loop filter. Connections are
provided between those components and the remainder of the
10 PLD so that if the PLL is not being used in a particular
user design of the PLD, the PLL modular components may be
used by other portions of the PLD. Similarly, those
connections allow other portions of the PLD to be used in
place of one or more of the modular components where more
15 complex or special filtering than can be provided by the
modular components is required.